The History of Urology in Cleveland, Ohio

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INTRODUCTION
Urology in Cleveland, as in the rest of the country, has evolved greatly over the past century. The recent passing of Resnick and Novick warrants a review of Cleveland’s rich urological history.

MATERIALS AND METHODS
We reviewed historical and scientific literature and interviewed Cleveland urologists.

RESULTS
Lower joined his cousin Crile as professor at Case Western Reserve University (CWRU) before they cofounded the Cleveland Clinic (CC) in 1921. Goldblatt at CWRU discovered renovascular hypertension, leading Poutasse at CC to develop renovascular arteriography and bypass surgery. Kolff brought his greatest invention, dialysis, to the United States when he joined CC. Straffon put CC’s renal transplant program on the map through his success with deceased donor transplants. Persky, renowned at radical prostatectomies, chaired urology at CWRU for nearly 30 years and trained 6 future university department chairpersons. Resnick succeeded him and became one of the eminent figures in urology; an authority on numerous subjects, president of the American Urological Association and American Board of Urology (ABU) and Editor of the Journal of Urology. Novick, who became chairman at CC in 1985, was the consummate renal surgeon; he was adept at renal revascularization and transplantation, but his greatest surgical innovation was the partial nephrectomy. He likewise held many positions, including president of the ABU.

CONCLUSIONS
Cleveland has been a driving force in the evolution of urology in the last century. Resnick and Novick led a golden age of urology for several decades until their recent untimely passings. UROLOGY 76: 1293–1297, 2010. © 2010 Elsevier Inc.
in the department of pathology at CWRU in the 1920s. Goldblatt’s primary interest was the role of renin in hypertension, which he explored through animal models. In his dog experiments, he used a clamp he fashioned on the renal arteries to produce hypertension. Our modern understanding of renovascular hypertension (RVH) is based on Goldblatt’s now-famous “two kidney, one clip” and “one kidney, one clip” models in the 1930s and early 1940s. His later work purifying renin for experimental activities led other scientists to elucidate the remainder of the renin-angiotensin-aldosterone pathway. One such scientist was Irvine Page, who in 1939 had wrapped a dog’s kidney in cellophane to produce hypertension, producing a model of what is now called “Page’s Kidney.”

There remained a significant gap between the groundbreaking basic science work of Goldblatt and the successful surgical management of patients with RVH. At CC, Higgins hired renal surgeon Eugene Poutasse, a man whom William Kiser of CC would later describe as “a fearless guy... He would just blindly stick a needle into the aorta at the level of the kidney. Most people in those days thought that this would kill a patient...” With his translumbar aortography, Poutasse reported a large series of renal arteriograms in 1957. He performed the first renal endarterectomies and became a pioneer in renovascular bypass surgery. At the time, Higgins had become nationally known. He performed the first transureteroureterostomy in a human, advocated for and performed many ureterosigmoidostomies for children with exstrophy, and, most famously, promoted the “acid-ash” diet for patients with nephrolithiasis. He would later go on to be president of the AUA.

Dutch physician Willem Kolff initially became interested in renal failure after watching a patient die of uremia and worked for many years on developing an “artificial kidney.” He developed many hemodialysis machines and ultimately performed the first successful dialysis in 1943, in German-occupied Holland. After the war, he performed dialysis on a woman in a uremic coma who awakened and lived. He came to the United States in 1950 and became the director of the CC Department of Artificial Organs. With the development of the Quinton-Scribner Teflon Silastic shunt, chronic dialysis became a reality, and Dr. Kolff’s work is credited with helping countless patients.

The 1950s saw the first human kidney transplants, but renal transplantation boomed in the late 1950s and early 1960s after the introduction of azathiaprine and other immunosuppressive agents. Ralph Straffon (Fig. 1) became chairman of urology at CC in 1963 and initiated the first renal transplantation program in Cleveland, initially with living donors. He recruited 3 more urologists to join his transplant team, each of whom would later make their names in different ways. Bruce Stewart was a technically gifted surgeon who would later specialize in male infertility and remain at the clinic until his untimely death from prostate cancer at age 53. Clarence Hewitt was an expert on testis tumors who at the time had the largest series of retroperitoneal lymphadenectomies in the country (Sanford Luria, oral communication, September 2009). William Kiser would later become the CEO of CC.

Transplant surgeons at the time were disappointed with the results of deceased donor renal transplants (DDRT). Straffon, however, was frustrated by the lack of living donors and sought to resuscitate the role of DDRTs in transplantation. Straffon’s team published the largest successful series of DDRTs at the time. Dr. Kolff, one of the key nephrologists of the team, performed dialysis on the recipients until their grafts became functional. Today, CC remains a high-volume renal transplant center, having performed nearly 4000 renal transplants.

George Austen, Jr. trained under J. Hartwell Harrison at Brigham Hospital in Boston. He stayed on as faculty urologist at Harvard until he came to CWRU in 1952. For the 7 years he stayed at CWRU, he developed the first successful series of radical prostatectomies in Cleveland, performing them through a perineal approach. Lester Persky (Fig. 2) was also renowned for his radical perineal prostatectomy skills and became chairman at CWRU when Austen returned to Boston. A Cleveland native, Persky gained brief fame as a football star at the University of Michigan until a hip injury cut his athletic career short (D. Karl Montague, oral communication, September 2009). He received his medical degree from Johns Hopkins and his surgical and urology training in Boston before joining the faculty of CWRU in 1951.
Persky served as Chair of Urology at CWRU for nearly 30 years. During his tenure, he was notoriously hardworking and a nationally well-regarded speaker, educator, writer, and surgeon (D. Karl Montague and Sanford Luria, oral communication, September 2009). He was known for having a hand in every aspect of the field, and was one of the most published urologists of his time, with more than 200 scientific papers to his name (D. Karl Montague, oral communication, September 2009). He maintained a busy practice, and throughout most of the 1960s was the only urologist in Cleveland performing radical prostatectomies, because Straffon at CC was not a believer in the operation (Sanford Luria, oral communication, September 2009). One of his many legacies was the quantity and quality of residents he trained during his tenure. Persky was a hard worker and expected the same of his residents (D. Karl Montague, oral communication, September 2009). He was known to tell trainees on his service, “The good news is that call is every other night. The bad news is you’re going to miss half the learning opportunities.” Many of his former students and residents have gone on to chair urology departments, including Robert Flanigan at Loyola, Jean DeKernion at UCLA, Mark Soloway at the University of Miami, Steven Selman at the University of Toledo, W. Scott McDougal at Massachusetts General Hospital, and Patrick Walsh at Johns Hopkins University.

In the early 1970s, Straffon, Stewart, Hewitt, and Kiser were the only urologists at the CC, but over the next few decades the department would expand exponentially (D. Karl Montague and Anthony Thomas, oral communication, September 2009). Straffon recruited two of his resident graduates to join the faculty: D. Karl Montague in 1973 and Andrew C. Novick (Fig. 3) in 1977 (D. Karl Montague, oral communication, September 2009). At the time, there was little to no subspecialization in urology, and all the urology faculty were adept in all areas of the field, but each began to develop his own niche (D. Karl Montague, oral communication, September 2009). Stewart began

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<th>Urologist</th>
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<tr>
<td>Charles C. Higgins</td>
<td>AUA, Ramon Guiteras Award, American Association of Genito-Urinary Surgeons (AAGUS) Keyes Medal</td>
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<tr>
<td>Ralph A. Straffon</td>
<td>AUA Hugh Hampton Young Award, AUA Gold Cane Award, AUA Certificate of Achievement Award</td>
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<td>William Kiser</td>
<td>AUA Presidential Citation</td>
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<tr>
<td>Lester Perksy</td>
<td>AUA Distinguished Service Award, AUA Gold Cane Award, AUA Certificate of Achievement Award</td>
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<tr>
<td>Martin I. Resnick</td>
<td>AUA Gold Cystoscope Award, AUA Distinguished Contribution Award, AAGUS Spence Award, American Foundation for Urologic Diseases Russell Scott Education Award</td>
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<tr>
<td>Andrew C. Novick</td>
<td>AAGUS Barringer Medal, AUA, Roman Guiteras Award, Honorary Fellowship in the Royal College of Surgeons of Ireland and in the Canadian Urological Association, and the St. Paul’s Medal from the British Association of Urological Surgeons</td>
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Table 1. Sample of awards bestowed on selected cleveland urologists

Figure 2. Lester Persky (Courtesy James M. Persky).

Figure 3. Andrew C. Novick.
focusing on male infertility and his accomplishments continue to be recognized by the American Fertility Society, which has maintained a Bruce H. Stewart Lectureship since 1972. Lynn Banowski joined the CC in 1972 to direct renal transplantation (D. Karl Montague, oral communication, September 2009). D. Karl Montague, who also trained in prosthetics with Brantley Scott in Houston, remains on the faculty as one of the world’s experts in urological prosthetics.

Andrew C. Novick emigrated from Montreal in 1972 and joined the faculty upon completion of his residency at CC in 1977. Novick was widely regarded as one of the world’s most accomplished renal surgeons (D. Karl Montague, oral communication, September 2009). He began his career in renal transplantation and renovascular surgery, continuing the CC’s strong tradition in these fields, which continued well into an era where these operations are largely the domain of vascular and general surgeons (D. Karl Montague, oral communication, September 2009). In the 1980s, he developed a keen interest in nephron-sparing surgery for renal cell carcinoma, and reported excellent results for both in vivo and extracorporeal or “bench” partial nephrectomies. His experience with partial nephrectomies in solitary kidneys later demonstrated a relationship between the amount of renal mass lost and development of proteinuria and glomerulopathy, validating Barry Brenner’s hyperfiltration theory. Straffon became the chair of the Division of Surgery at CC in 1983, and urological oncologist James E. Montie chaired the Department of Urology until Novick was named chairman in 1985. Novick at the time was chair of a department with 7 staff urologists. His 23-year tenure saw the department grow into the Glickman Urological and Kidney Institute, currently home to 43 staff urologists. A product of the residency program himself, he oversaw the program as it developed from a regional to a nationally renowned academic powerhouse, recognized as one of the top two programs in the country.

By recruiting basic science researchers, he elevated the role of laboratory research in the department and incorporated a research year into the residency program. Novick himself authored more than 500 peer-reviewed research articles and 104 book chapters, and served on the American Board of Urology (Table 1). His “proudest professional achievement,” however, was his development of and success with Glickman Urological and Kidney Institute. Unfortunately, shortly after the Institute moved to its present location in the Glickman Tower, Novick died of complications of lymphoma. His passing on October 18, 2008 was a shocking and distressing surprise to many, because he had maintained his vigorous work ethic and clinical stamina until the end (Anthony Thomas, oral communication, September 2009).

In 1981, CWRU recruited Martin I. Resnick (Fig. 4) as chairman to succeed Persky, a position he would hold until his passing 26 years later. His areas of expertise were broad. He wrote extensively of the role of ultrasonography in urology and was politically active in maintaining the role of the urologist in the performance of these procedures. He had an interest in nephrolithiasis that began as a medical student at Bowman Gray School of Medicine and he later published on the biochemical profiles of stone-formers and the role of macromolecules in renal stone formation. In the past 30 years, the management of stones has moved from large, open surgeries to endoscopic, extracorporeal, and percutaneous approaches, and Resnick recognized the importance of defining renal and renovascular anatomy in obtaining access for the latter. In the management of prostate cancer, Resnick was well-regarded as an expert in the perineal approach to radical prostatectomy (D. Karl Montague and Anthony Thomas, oral communication, September 2009).

Resnick maintained an impressive presence on the national urology scene. He served as secretary and then as president of the AUA, president of the ABU, and editor of the Journal of Urology. He had an enthusiasm for urological education early on and he established a resident exchange program between CC and CWRU, and later, nationally, he developed the AUA’s “Young Leadership Program.” In early 2006, he was diagnosed with acute myeloid leukemia, but despite his illness and treatment regimen, he remained active in practice and with his editorial duties at the Journal. Sadly, Dr. Resnick passed away on June 24, 2007.

CONCLUSION

Cleveland urology has been not only a microcosm of American urology, but one of the major driving forces for
the evolution of the field in the 20th and early 21st centuries. The growth, specialization, and subspecialization of the field have been echoed in Cleveland, especially at CC and CWRU. Moreover, many contributions to and milestones in the understanding and management of genitourinary disease occurred in Cleveland. Renovascular hypertension, hemodialysis, renal transplantation, nephron-sparing surgery, and surgical management of prostate cancer were either introduced or excelled at by physicians in Cleveland. In particular, Resnick and Novick led a golden age of urology for nearly 30 years, and urology—both locally and nationally—is better for having had them.

References